STATEMENT ON UNIVERSITY RESEARCH

INTRODUCTION

Research is a fundamental function of universities. Through the performance of research, universities: contribute to the capital stock of knowledge upon which our nation draws in promoting its social, economic and cultural development; provide the milieu required for the specialized education of future generations of researchers; and maintain the level of scholarship necessary to foster excellence in teaching.

The research capability of the university system in Canada is important in both quantitative and qualitative terms. Quantitatively, most of the basic research and most of the research workers in Canada are within this system. Qualitatively, several factors contribute to the imperative for a strong university-based research effort. First, by virtue of their long-term perspective, universities, with few exceptions, are better suited to fundamental* research than those other research organizations which are under pressure to concentrate on short-term issues. Second, the diversity of disciplines represented in universities provides special opportunities for multifaceted approaches to research. Third, the autonomy of universities ensures that political and economic considerations do not unduly influence or constrain free enquiry and the free exchange of information. Fourth, the coupling of research activity to the preparation of future generations of researchers ensures a long-term national capacity for innovation and development.

Although universities are particularly suited for fundamental research, and regard it as a special responsibility, their capacity for the activity in applied research has expanded considerably in recent years. In order to make optimum use of material and human resources and to foster effective technology transfers, growing emphasis has been placed on the development of synergistic relationships between universities and industry in applied research and development. While university-industry cooperation takes a wide variety of forms, the overall extent of this interaction remains low and tends to emphasize the technologically-oriented disciplines related to

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* sometimes referred to as basic, pure, free, or core research

related to manufacturing and resource-based industries. This emphasis is understandable, given the economic challenges facing our nation. Universities also have much to offer, however, in applied research related to the service sector and in applied research involving the humanities and social sciences.

University research has both national and international dimensions. Through the development and maintenance of a strong capacity for research, Canadian universities not only contribute to new knowledge but also create and maintain the expertise necessary for the assimilation and adaptation of discoveries and advances in other countries. This research expertise also provides the means by which Canadians can participate in cooperative international research ventures as well as creating significant opportunities for inter-institutional cooperation. At the same time there are a variety of research problems which have a specifically Canadian dimension and some which are special Canadian responsibilities. The latter include those that relate to the study of Canada itself in all of its social, economic, cultural, political and physical aspects.

The pattern of support for university research is complex and involves a variety of sources of funds.

1. The federal government supports university-based research in two ways: directly, through grants and contracts provided by the national research councils and other government agencies, and indirectly, through that portion of federal transfer payments to the provinces which passes to the universities and is used for the support of research.

2. The provinces support university-based research through that portion of the provincial component of provincial operating grants to universities used for the support of research and through grants and contracts provided by provincial granting councils or other provincial government agencies.

3. A wide variety of non-governmental agencies, crown corporations, private business enterprises, voluntary associations, foundations and private individuals support research in areas of special interest.

4. The funds derived from these sources are expended on salaries and benefits for research personnel, research support services and training, and capital costs of plant and equipment. It must be noted, however, that the pattern of expenditure and the costs of research vary widely among disciplines. Many rapidly advancing fields of research are characterized by intensive requirements for human and material resources. These areas are not adequately served by present funding policies which are based essentially on supporting the educational function of universities as measured, for example, by student enrolment.

The nature of the sponsorship of research is also of great importance to universities. Universities distinguish between the general research function of faculty members, the goals of which are determined by individuals or groups within the university, even though it may be supported from external sources, and research undertaken on behalf of external clients. The former has here been termed "core research" and the latter "supplementary research". At present the level of support provided for both core and supplementary research is inadequate to exploit the full potential of the universities. Federal agencies do not cover fully the direct costs of research which they have agreed to fund; the provinces do not provide adequately for indirect costs or such direct costs as those related to academic and support staff; and clients commissioning supplementary research do not cover all of the associated indirect costs. Not only are existing research programs underfunded but many excellent proposals are not funded at all.

In addition to an adequate level of research support at any given time, sustained effective development of university research requires stability and an appropriate balance of funding among disciplines. Universities have been greatly concerned about the lack of stability of support for research and by the disparity of levels of support among disciplines. Stability and balance are best achieved through the establishment and implementation, by research funding agencies, of adequately funded multi-year plans designed and implemented in close consultation with university researchers.

While Canadian universities have much in common, they nonetheless vary considerably in size and in areas of specialization. It has been argued that there should be even greater differentiation of institutional roles, especially in research. While greater differentiation may be desirable under certain circumstances, it cannot be considered in isolation from such factors as the total level of support for university research and the means by which differentiation is pursued.

If, for example, the total level of research support is so small that differentiation could only be achieved by having a very few institutions able to conduct significant research, the case for a high degree of differentiation is weakened. If the total level of research funding is high enough, however, a broad base of general research activity can be sustained while still allowing for enhanced institutional differentiation.

As to the means of promoting increased differentiation, long-term interests are likely to be better served by a system of incentives and competition among institutions, based on rigorous application of high standards, than by centrally directed differentiation.

Since the quality and quantity of university-based research depends heavily on the number and caliber of qualified faculty members and on the continuing input of qualified new researchers, it is evident that the vitality of university research depends on the ability of universities to retain and recruit faculty. As university financing has become increasingly constrained, the opportunity for young researchers to find continuing university positions has decreased and the base upon which future university research depends has become progressively narrower.

Government's relation to research is, however, more than financial. Since much research focuses upon government itself, or uses government records or archives, governments can and should support research by preserving records, collecting and maintaining data bases and statistics, and permitting reasonable access to these resources for research purposes.

Finally, research without publication is of limited value. In a country like Canada with a small population divided between two main linguistic groups, the commercial base for the publication of specialized, scholarly works is fragile at best, especially in areas which are of primarily local or Canadian interest, with a limited international market. Government, therefore, should be sensitive to the need to support scholarly publication as a necessary condition of the health of university research.

The foregoing observations do not constitute a comprehensive or detailed treatment of all aspects of university research but rather reflect those issues and challenges that form the basis for the following statements.

PRINCIPLES

The AUCC believes:

1. that research is a fundamental function of universities which determines, and is determined by, the state of the institutions in which it is conducted. Through their research function, Canadian universities contribute to the generation and refinement of knowledge, its imaginative application to current and emerging problems and the preparation of future generations of individuals trained in research and development. Research and education, and community services arising from these basic functions, are the means by which universities participate in the economic, social and cultural development of our nation and its regions.

that universities have a special responsibility for, and are best suited to, the conduct of research under conditions of free enquiry. These conditions include:

- a high degree of institutional autonomy;
- freedom of the individual to pursue independent lines of enquiry;
- free exchange and publication of research results;
- the allocation of resources for the support of research on the basis of the quality of work to be done as determined through objective, informed and explicit peer judgements.

3. that freedom of enquiry must be exercised responsibly and with due regard to ethical standards for the conduct of research.

4. that there is a growing need for a clearer and broader understanding of the relative roles of universities, governments and the private sector in the conduct and support of research. Universities, governments and the private sector may operate at all three levels in the spectrum; basic research, applied research and commercial development. In general, however, universities emphasize basic research and the training of researchers while the private sector is mainly concerned with commercial development. The challenge is to find the means to protect and to enhance the capacity of universities to undertake fundamental research while promoting greater interaction and cooperation among universities, governments and the private sector in the areas of applied research, development and technology transfer. In forging stronger links with industry through contract research, universities must continue to adhere to the importance of freedom of enquiry and exchange of information while devising approaches to such matters as the release of information which are consistent with the needs of the contracting agency.

5. that the funding of university research must be increased in order to mobilize fully the intellectual resources of universities in the advancement of Canada's social, cultural and economic institutions and its position in the world. This increase in funding should be directed at achieving the following objectives:

   a) meeting the full indirect costs of research and enhancing the funds available for meeting direct costs. This should not be achieved at the expense of funding for teaching programs.

   b) the development of special funding programs in areas where urgent remedial action is required. Such areas include:

- expanded career development support to allow universities to recruit talented young research faculty with a view to incorporating them into the regular complement of academic staff as positions become available;

- increased funding for the acquisition of state-of-the-art research equipment through replacement, upgrading and addition;

- enhanced library resources, including provisions for the storage, retrieval and communication of information through the application of modern technology;

- increased support for the development of computer systems.

6. that governmental policies should be directed at facilitating cooperation among universities, government laboratories and industry by:

   (a) promoting expansion of the level of interaction between and among existing government laboratories and universities;

   (b) the establishment of government-supported research institutes within or closely affiliated with universities;

   (c) the provision of incentives for private investment in university research;

   (d) the use of government procurement programs to promote intersectoral cooperation.

7. that governments should recognize the importance of a balanced development of university research in the sciences and humanities and the importance of a commitment to long-term goals and objectives for research development.

8. that government funding of university research, through granting agencies and by other means, should be predicated on a commitment to quality assurance, the orderly evaluation of research proposals, the sound administration of research funds and providing stability in funding through the establishment of, and the adherence to, multi-year research development plans.

9. that government support for research should encompass adoption of policies to ensure that maintenance of, and reasonable access to public archives, statistics and other data needed by scholarly researchers.

10. that government support should encompass the provision of assistance for publication of research results in scholarly works.

11. that a National Council on Higher Education and Research, composed of representatives of the federal and provincial governments, the universities and the public, would be an appropriate forum for ongoing review of these issues involved in the development of university research and for the formulation of recommendations concerning policies and mechanisms that would promote desirable change.

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